ITS Technical Bulletin 158
PL/1, STROBE, AND SMARTEST

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Information Technology Services has recently installed and tested new releases of several products in an isolated environment. These products are:

a. PL/1--Release 2.3
b. STROBE--Release 9.1
c. SMARTEST--Release 3.0

Attached is a summary for each product detailing some of the features and enhancements available in the new release.

We are planning to implement this group of products into the development environment (CPU4) on April 11, 1993 and into the production environments (CPU2 and CPU3) on April 18, 1993.

Please contact I.T.S Customer Services at 538-3440 if you have any problems, questions, or concerns regarding this implementation.

PL/l Version 2

OS PL/l Version 2 contains enhancements that can make PL/l programmers more productive, PL/l programs perform more efficiently, and PL/l easier to use.

The following enhancements are provided by Version 2 Release 3:

1. System Programming Extensions. A number of significant new features enhance the use of PL/l as a System Programming language.

2. Support of Additional Program Execution Environments. PL/l has been extended to facilitate support for PL/l programs that execute in non-problem-state environments. These new environments include, but Are not limited to:

    a. Supervisor State.
    b. Cross-Memory Mode.
    c. System Request Block (SRB) Mode.

3. Additional Support for Pointers. The PL/l language has been extended to allow extended operations on pointers, including pointer arithmetic.

4. Additional Support to Entry Variables. A new built-in function and pseudovariable, ENTRYADDR, allows programmers to manipulate entry point addresses of procedures.

5. PLITEST Enhancements. A number of enhancements have been made to the support provided for PLITEST and INSPECT:

    a. Member elements up to the first REFER element in a structure may now be accessed.
    b. Variables based on pointer parameters may now be accessed without explicit locator qualification.
    c. The INTERRUPT compiler option is not needed when using a TEST option other than TEST(NONE, NOSYM) or NOTEST.

A number of enhancements have been made to PLITEST.

    a. Tasking built-in functions may be used.
    b. The USE command may be nested.
    c. The new Release 3 built-in functions may be used.
    d. PLITEST pointer semantics match those of the compiler.
    e. All PLITEST modules are reentrant.

6. Consistent Date and Time. A new built-in function, DATETIME, returns consistent date and time, including the four-digit year.

7. Storage Allocations. Storage allocations for based variables that are allocated outside of AREAs will be allocated on a 4K page boundary if the amount of storage requested is a multiple of 4K and is greater than, or equal to, 32K.

8. CICS Enhancements. Enhancements provided include:

    a. Support for the DATE, TIME, and DATETIME built-in functions.
    b. Support for the High Level user exit IBMBINT.
    c. Optional ABEND code, instead of ???? (four questions marks), will be shown when a dump is not requested.

9. VM/CMS Exploitation. Native CMS support is used to perform services normally provided by the LOAD, DELETE, GETMAIN, and FREEMAIN services of MVS.

10. PL/1 Support of Character Strings. PL/l will support character strings in its interlanguage communication with VS Fortran. Character strings which may be shared with VS Fortran are:

    a. Nonvarying, nonadjustable scalar character strings.
    b. Arrays of such character strings.

11. User Exit Improvements. These functions significantly enhance tools, such as the AD/Cycle Software Analysis and Test Tool, that can gather and analyze program test, coverage, and performance data during execution of PL/l programs. Improvements to functions related to the user exit include:

    a. IBMBSIR has been improved to provide additional information about the PL/l program.
    b. A new callable service, IBMBHKS, is available to formally enable and disable various test hooks without the use of PLITEST.

12. Installation Enhancements. The following installation enhancements have been provided:

    a. Improvements to PL/l and C/370 installation.
    b. Target library DDNAME changes.
    c. New sample installation jobs.
    d. The default of the TSTAMP (time stamp) compiler installation option has been changed to YES.

13. MAIN Procedure Name. REPORT output now contains the name of the MAIN procedure.

14. Page Numbers. PLIDUMP output now contains page numbers.

STROBE 9.1 Changes and Enhancements

STROBE 9.1 offers several significant changes and enhancements. Listed below is a summary of the modifications that should provide benefits in our environment:

1. Enhanced Reporting for CICS. With CICS Version 3, transaction processing may be performed by multiple tasks. Prior to this release, STROBE only reported on quasi-reentrance dispatching mode for CICS Version 3. STROBE now identifies CICS transactions running under all of the CICS Version 3 dispatching modes; quasi-reentrant, concurrent, and resource-owning.

2. Support for NATURAL Optimized Code. STROBE has been modified to support NATURAL optimized code.

3. Enhanced Reporting for NATURAL Programs. STROBE reports have been enhanced to detail more identification information about NATURAL programs.

4. Support for Release 2.2 of NATURAL. STROBE has been updated to support the current release of NATURAL (2.2) as well as older releases.

5. Support for DB2 Release 2.3. Several changes have been made to this release of STROBE to provide support for DB2 2.3.

6. New Documentation. Some new documentation has also been provided with this release. It replaces the existing ADABAS/NATURAL Feature Document Guide and the STROBE Messages Guide. The new documentation can be obtained through Elaine Oaks, I.T.S. When ordering, please make reference to the following document numbers:

   a. STROBE ADABAS/NATURAL Feature Guide - S018.1
   b. STROBE Messages Guide - S017.2

SMARTTEST Release 3.0

The latest version (3.0) of Viasoft Smarttest is scheduled to be implemented into production on the following dates:

CPU4--April ll, l993
CPU3--April l8, l993
CPU2--April 18, 1993

Version 3.0 contains the same functionality as the current version (2.2), yet it is easier to operate. The most dramatic difference between version 3.0 and version 2.2 is the Common User Access (CUA) which is new to 3.0. The CUA interface consists of action bars, pull-downs, and pop-ups.

When entering Smarttest version 3.0 for the first time you will immediately notice the different menu structure. The 'Primary Menu' of version (2.2) is replaced by an action bar at the top of the screen. The word VIASOFT in large block letters appears in the lower half. By placing the cursor on any of the choices in the action bar and pressing enter, we can access any of the functions and commands in Smarttest.

Example:

TO ACTION

Set up a testing environment 1. (3.0) Place cursor on "file" in pull-down bar, and press enter. This displays a menu window with 9 options.

(2.2) Select Option "2" from "PRIMARY MENU." This places you in the "TEST MENU" with 5 options.

2. (3.0) Enter "l" after placing cursor with the home key or place cursor on "1." Setup test environment..." and enter. This places you in the "File - Setup Test Environment" screen.

Enter option 2 to select execution environment. You are now in the "Environment Selection" screen where you can specify the testing environment.

(2.2) Select option O to select environment. This places you in the "ENVIRONMENT SETUP MENU" where you select the testing environment.

Obtain help Use PF1 to obtain help from any Smarttest menu or Pull-down screen.

Run Conversions As with previous version updates, there will need to be conversions run against version 2.2 AKR members. The procedure is as follows:

1. Access Smarttest, L SMRT.

2. Place cursor on "File" in the pull down menu and hit enter key. Enter option 6 or place cursor on "6. AKR utility..." and enter. You are now in the "file - AKR utility" screen.

3. Fill in AKR dataset name in quotes. Format - 'yourid. viacen30.akr'. Enter "A" to allocate AKR. Fill in allocation information and enter to submit batch allocation jcl.

4. After new AKR is allocated, submit the batch jcl below to convert old AKR members to the new format required for version 3.0.

```
//your jobcard xxxxxxxxxx
//*
//utility exec pgm=viasakru,region=3000k,parm="
//*
//steplib dd dsn=dp.via.r30. loadlib,disp=shr
//*
//viaakrin dd dsn=your.old.akr.dataset,disp=shr
//viaakrot dd dsn=your.new.akr.dataset,disp=shr
//*
//vialog   dd sysout=*
//viaprint dd sysout=*
//sysprint dd sysout=*
//sysudump dd sysout=*

//viasysin dd *
convert *
//

/* to convert all members of old AKR
/* or to convert individual members, specify "convert
membername"
```

5. Review output to verify all members were converted successfully.

6. Delete the old AKR file.

New manuals for Smarttest are available for order through Elaine Oaks, 538-3462. If you have questions or concerns regarding Smarttest, please contact Database Administration at 538-3235.